

REMARKS

References Cited on Information Disclosure Statements

The Office Action included a suggestion related to the length of the IDS. 2/11/04 Office Action, page 2.

Applicants' claims are direct to multi-component compositions and methods for forming them. Because it is difficult to predict which references might be combined by an Examiner under 35 U.S.C. §103(a), Applicants have exercised caution in citing references that appear to teach at least one of the recited components. In a further effort to comply with their duty to disclose, Applicants have considered references of record in conceptually (if not formally) related applications. These efforts to comply with their duty to disclose unavoidably led to a long list of documents, and Applicants cannot in good faith suggest that any of the references be ignored.

While not discounting the importance of any of the other references cited, Applicants offer the following list of references, all previously of record, believed to be among the most pertinent to their pending claims:

US 4,562,243 to Percec
US 4,663,402 to Percec et al.
US 4,665,137 to Percec
US 5,079,268 Nelissen et al.
US 5,091,480 to Percec
US 5,171,761 to Penco et al.
US 6,627,704 to Yeager et al. (cited as US 2001/0053820 A1)
US 6,352,782 to Yeager et al.
US 6,384,176 to Braat et al.
US H521 to Fan
USSN 10/063,292 to Merfeld et al.
USSN 10/119,406 to Yeager et al.
EP 261,574 to Peters et al.

Please note that this list includes references that have either not been published or were published after Applicants' filing date. The list should therefore NOT be interpreted as a concession that the listed references constitute prior art.

Claim Amendments

Claims 2, 4, and 6 have been canceled without prejudice.

Claim 5 has been amended to depend directly from Claim 1.

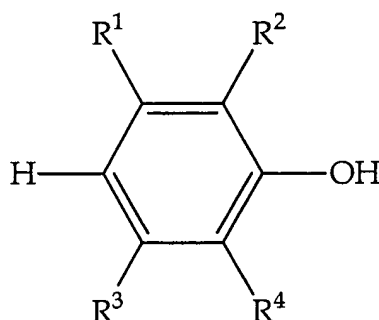
Claims 1, 31, 23, 34, 37, and 40 have been amended to recite a particular structure for the poly(arylene ether). Support for these amendments may be found, at least, in Claim 6 as filed.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-4, 7-12, 14-32, and 34-40 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 3,637,578 to Wright et al. ("Wright"). Applicants respectfully traverse this rejection.

Wright generally describes thermosetting resin compositions made by combining a high-temperature thermoplastic resin, i.e., a polyphenylene ether polymer, with mixtures of reactive monomers and reactive-type polyester resins, each containing polymerizable carbon-to-carbon unsaturation. Wright abstract.

Applicants' rejected independent claims have been amended to recite particular poly(arylene ether) resins. Claims 1, 31, 32, 34, 37, and 40 have been amended to recite that the "the poly(arylene ether) is a capped poly(arylene ether) is produced by capping a poly(arylene ether) consisting essentially of the polymerization product of at least one monohydric phenol having the structure



wherein R¹-R⁴ are each independently hydrogen, halogen, primary or secondary C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₁-C₁₂ aminoalkyl, C₁-C₁₂ hydroxyalkyl, phenyl, C₁-C₁₂ haloalkyl, C₁-C₁₂ aminoalkyl, C₁-C₁₂ hydrocarbonoxy, C₂-C₁₂ halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms.”

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970).

Applicants respectfully submit that Wright does not support a prima facie case against Claims 1-4, 7-12, 14-32, and 34-40. Wright does not teach or suggest any capped poly(arylene ether), let alone the capped poly(arylene ether) recited in independent Claims 1, 31, 32, 34, 37, and 40. Therefore, Wright does not teach or suggest all elements of Applicants’ independent claims. Accordingly, independent Claims 1, 31, 32, 34, 37, and 40 are patentable over Wright.

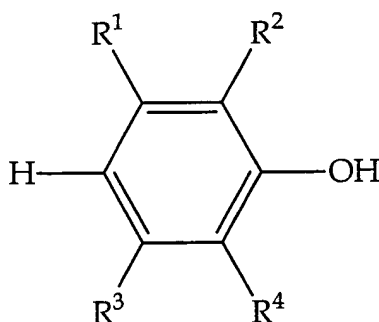
Furthermore, Wright does not teach or suggest the limitation of independent method Claims 37 and 40 that the method comprises “grinding at a temperature less than about -75°C.” The Examiner alleges that “cryogenic grinding” is a conventional method of preparing powder form compositions. 2/11/04 Office Action, page 2, fourth full paragraph. However, cryogenic grinding is not taught by Wright, which merely mentions that his compositions may be “pre-mixed, powdered, granular, or dough type.” Wright, col. 6, ll. 1-2. Thus, Claims 37 and 40 are further patentable over Wright.

Given that Claims 2, 4, and 6 have been canceled, and that Claims 3, 4, 7-12, 14-30, 35, 36, 38, and 39 each depend ultimately from one of independent Claims 1, 31, 32, 34, 37, and 40, Applicants respectfully request the reconsideration and withdrawal of the rejection of Claims 1, 3, 7-12, 14-32, and 34-40 under 35 U.S.C. §103(a) over Wright.

Claims 1-32, and 34-40 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,965,663 to Hayase ("Hayase"). Applicants respectfully traverse this rejection.

Hayase generally describes a resin composition comprising (a) polyarylene polyether represented by the general formula of Z_1 -(polyarylene polyether) chain- Z_1' (wherein Z_1 and Z_1' denote individually a monovalent organic group containing a cross-linkable unsaturated carbon-carbon linkage), and (b) an inorganic filler. Hayase abstract.

Hayase does not support a prima facie case of obviousness against the rejected claims because Hayase does not teach or suggest the capped poly(arylene ether) resins recited in Applicants' rejected independent Claims. As noted above, Applicants' Claims 1, 31, 32, 34, 37, and 40 have been amended to recite that the "the poly(arylene ether) is a capped poly(arylene ether) produced by capping a poly(arylene ether) consisting essentially of the polymerization product of at least one monohydric phenol having the structure



wherein R^1 - R^4 are each independently hydrogen, halogen, primary or secondary C_1 - C_{12} alkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} alkynyl, C_1 - C_{12} aminoalkyl, C_1 - C_{12} hydroxyalkyl, phenyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} aminoalkyl, C_1 - C_{12} hydrocarbonoxy, C_2 - C_{12} halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms." Hayase does not teach or suggest such a capped poly(arylene ether) resin. Instead, Hayase teaches away from such resins by teaching numerous polyarylene ether structures, each of which incorporates groups other than phenylene ether in the internal chain. See Hayase, col. 3, ll. 52-67; col. 4, ll. 27-41; col. 8, ll. 21-33; col. 11, ll. 30-44; col. 14, ll. 45-52 and col. 15, ll. 5-50; cols. 21-26; and cols. 33-36. Hayase thus fails to

teach all elements of Applicants' rejected independent claims, and those claims are therefore patentable over Hayase. Given that Claims 2, 4, and 6 have been canceled, and given that Claims 3, 5, 7-30, 35, 36, 38, and 39 each depend ultimately from and further limit one of dependent claims 1, 31, 32, 34, 37, and 40, Applicants respectfully request the reconsideration and withdrawal of the rejection of Claims 1, 3, 5, 7-32, and 34-40 under 35 U.S.C. §103(a) over Hayase.

Nonstatutory Double Patenting Rejections

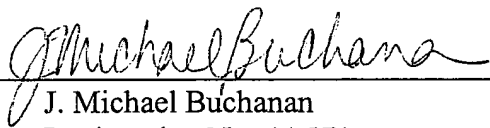
Claims 1-40 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-50 of U.S. Patent No. 6,593,391. Applicants are submitting herewith a terminal disclaimer in compliance with 37 CFR § 1.321(c) to overcome the rejection.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862 maintained by Assignee.

Respectfully submitted,

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